5. Device according to [claim 3 or 4, characterized in that,] claim 3, wherein, per 1 m of blast nozzle bar length, approximately 250 blast nozzles (23) with a nozzle diameter of approximately 1 mm are arranged in the blast nozzle bars (18, 19).

6. Device according to [claim 3, 4 or 5, characterized in that] claim 3, wherein the blast nozzles (23) are arranged in the blast nozzle strips (18, 19) centrally relative to the blast nozzle bar width and successively transversely across the entire strip width.

7. Device according to [one or several of the claims 3 to 6, characterized in that] claim 3, wherein the gap (30) between the surfaces of the strip (10) and the blast nozzle bar surfaces facing the strip has a width of 0.1 to 1.0 mm, preferably approximately 0.2 mm.

2/pats

Translation of WO 00/51757 (PCT/EP00/01235)

Method and Device for Drying and Keeping Dry Especially Cold-Rolled Strip in the Delivery Area of Cold-Rolling and Strip-Rolling Plants

The invention relates to a method and a device for drying and keeping dry especially rolled strip (cold-rolled strip) up to approximately 10 mm thickness, preferably smaller than 0.2 mm thickness, in the delivery area of cold rolling and strip-rolling plants, wherein, for separating the "damp area" of the rolling mill relative to the further delivery area, "dry area", downstream of the last roll stand, a partition is arranged whose upper part extends above the strip up to the stand platform and whose lower part below the strip extends down to the base plate.

In the delivery area of rolling mills the required quality of the product "cold-rolled strip", in addition to good flatness and optimal thickness tolerance, includes also dryness and cleanness of the strip surface because otherwise surface errors, for example, stains, are unavoidable during further processing of the strip.

In order to obtain a dry strip surface and to shield it relative to the damp area of the rolling mill and to protect it in this way from becoming wet again, for example, by undesirable condensation of the vapors which are emitted by the rolling stand, different devices and measures are known, such as, for example, partitions, removal by vacuum, removal by blowing as well as combinations thereof.

Accordingly, in DE 28 44 434 A1 it is suggested to remove by vacuum liquid residue from sheet metal and strips continuously transported through particularly rolling mills and strip treatment plants in a defined area transverse across the sheet metal surface by means of vacuum generated with suction tubes, that is, by means of the vacuum flows produced thereby. The suction tubes provided with a longitudinal slot have attached laterally thereto sealing lips of rubber, plastic, or brushes which laterally seal the suction area relative to the strip.

From DE 44 22 422 A1 a device for a contactless sealing of a gap between a partition and a working roll in the delivery area of a roll stand is known. The end of the partition is positioned contactless with a minimal gap-shaped spacing substantially tangentially at the surface of the working roll. The gap which is formed in this way between the partition and the working roll is sealed by an energy-rich flow (in the form of compressed air) exiting from a gap nozzle arranged in the end area of the partition. The underpressure, which is produced in this way by the flow as a result of the cutting edge-like tapered configuration of the end portion and its arrangement relative to the working roll, has the effect that additionally larger amounts of air are taken through the gap and flow in the direction toward the damp area of the working roll. This provides a defined flow between partition and the rolling stock, and the wet air with droplets and other particles is removed by suction within the flow area.

A further type of partition for keeping dry cold-rolled strip in the delivery area of a roll stand by deflecting means for deflecting liquid rolling medium and/or for removing sprayed or